DAYMARK® ENERGY ADVISORS

AREAS OF EXPERTISE

Transmission planning

Power system modeling

Interconnection studies

BACKGROUND

Daymark Energy Advisors
2024-Present

ISO New England
2015-2024

EDUCATION

M.S., Electrical and Computer Engineering
Clemson University

B.E., Electrical and Electronics Engineering
Anna University

Sasikumar Kannan

Lead Engineer

Sashi works with power system developers and transmission owners to advance generation and transmission projects. Previously with ISO New England, he has an extensive understanding of New England's bulk power system and the greater northeast region, including long-term planning, compliance standards, and dynamics modeling. He is experienced in transmission planning and power system modeling, including case builds, dynamic data management and validation, system stability studies, and generator interconnection stability studies.

SELECTED EXPERIENCE

- As a *Power System Engineer with ISO New England*, engineered and led the implementation of a strategic, company-wide dynamics model development process, optimizing system planning and validation to comply with NERC standards. Spearheaded the adoption of automated tools and databases, significantly enhancing the efficiency and reliability of power system models.
- Innovated a Python-based tool and a text database for dynamic data management, revolutionizing the dynamics case build process for New England-wide PSS/E dynamics case files.
- Chaired and actively contributed to several high-impact working groups, including internal stability, dynamics data validation, and northeast regional dynamics modeling (SS-37 and MMWG), improving collaborative efforts and knowledge transfer across operational, planning, and compliance teams.
- Developed and maintained a comprehensive Stability Case Library consisting of up to 22 cases, each stressed to different parameters. This library served as a crucial resource for Operations, Planning, Transmission System Services, and Transmission Owners (TOs), supporting their diverse analytical needs and ensuring optimal system performance under various scenarios.
- Directed the overhaul of existing case build processes, achieving substantial time savings and increased model accuracy for cluster studies, transmission planning, and operational studies.
- Provided expert technical support and training to internal and external stakeholders, improving model management practices and fostering a culture of continuous improvement and compliance with industry standards.
- Spearheaded the design and ongoing maintenance of advanced transmission models for the New England Bulk Power System, enhancing system reliability and supporting extensive generation and transmission

expansion projects within the New England Power Pool (NEPOOL) system using SIEMENS MOD.

- Led the periodic updates of the ISO-NE PSS/E basecase and developed specialized models for ISO-NE and Transmission Owners (TOs), ensuring optimal operational efficiency and compliance with regional standards.
- Systematically collected, modified, and reviewed a comprehensive range of electric transmission system parameters, including equipment ratings, impedances, contingency sets, and system topologies, to uphold system integrity and performance.
- Implemented Siemens Power Technologies International's (PTI) Model on Demand (MOD), significantly enhancing infrastructure and streamlining processes for project-based long-term planning and model management.
- Contributed to product development initiatives with PTI, including beta testing SIEMENS Power system programs such as PSS/E, MOD File Builder, MOD Web interface, and PSS/E GIC tool. These collaborations facilitated key enhancements to simulation and model management platforms, improving operational readiness.
- Developed internal powerflow cases, chaired inter-departmental meetings, and conducted case building tutorials; updated contingency decks, optimized economic dispatch, and conducted fault analysis to maintain system resilience.
- Innovated and refined internal tools and scripts to improve efficiency and accuracy, including:
    - Developed the Field Data Bridge Utility (FDBU) program to seamlessly integrate data between EMS and steady state models, ensuring data consistency.
    - Created the GNET Cleaner program in Python to automate the removal of duplicate entries in dynamic files, enhancing data integrity.
    - Engineered the DYR Merger program in Python, automating the process of searching and merging hundreds of dynamics IDV files from subfolders, significantly speeding up model integration tasks.